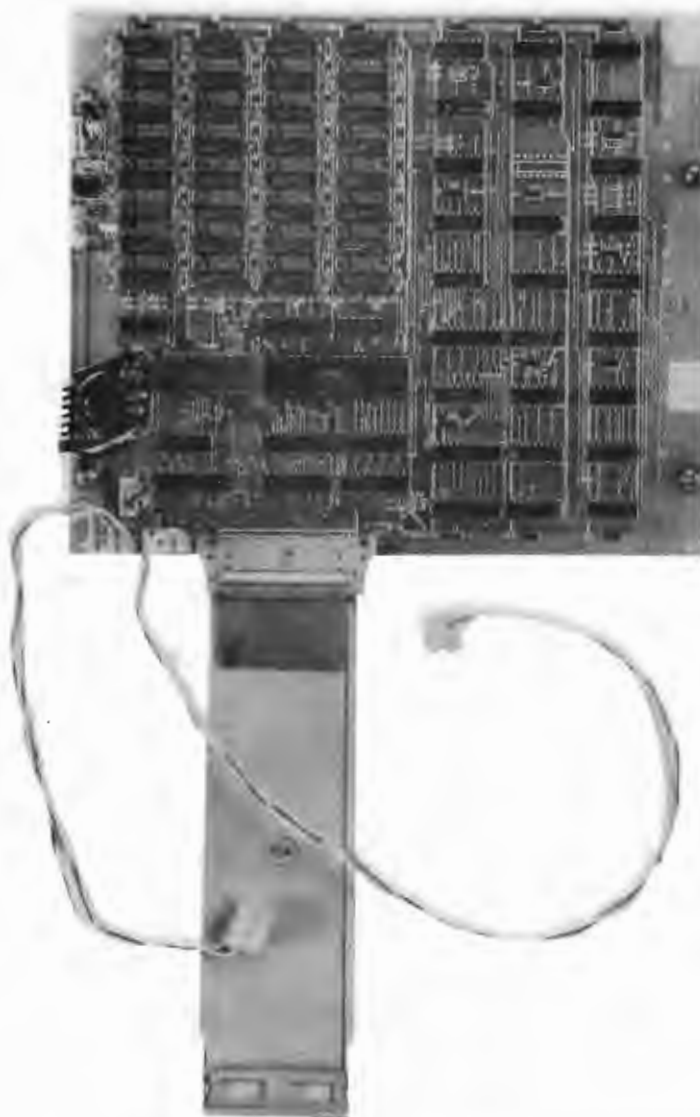


# Commodore 64K Add-On Memory

## Technical Manual



 **commodore**  
COMPUTER

PART NO.	DESCRIPTION
8032085-01	PCB ASSY-PET 64K MEMORY

REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
A		PRODUCTION RELEASE	3/5/81	C. L. L.
B		REV PER ECO 2079	7/23/81	<i>[Signature]</i>
C		REV PER ECO 2094	7/1/81	<i>[Signature]</i>

**2** IDENTIFY WITH APPLICABLE  
DASH NO. AND REVISION LEVEL.

1. SHEET 4 OF 4 SIZE D

ASSY DWG

NOTES: UNLESS OTHERWISE SPECIFIED

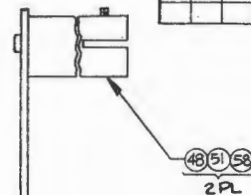
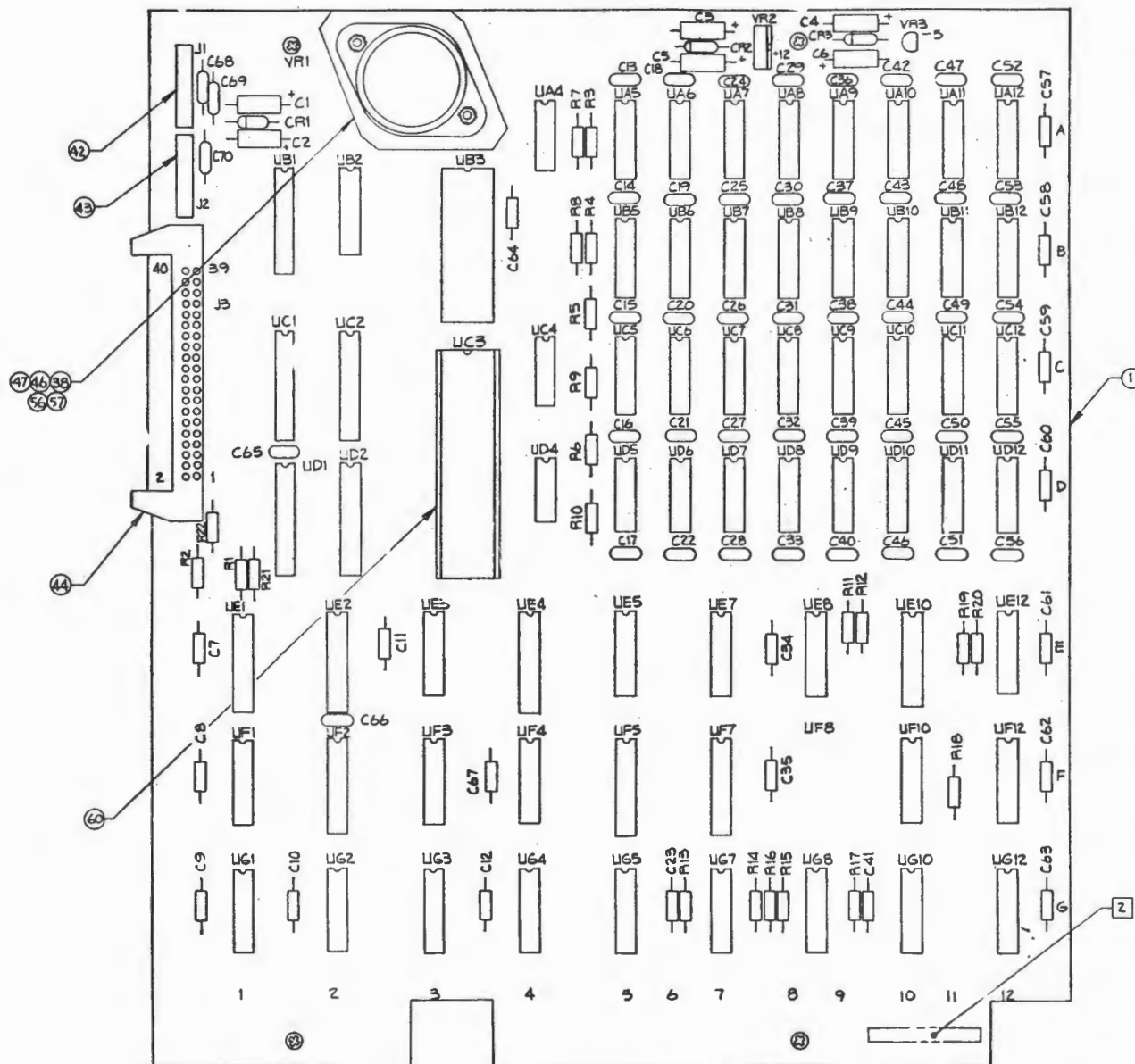
commodore	TITLE: PCB ASSY-PET 64K MEMORY	DRAWN BY M. AYES	DATE 2-18-81	ENGR <i>[Signature]</i>	3/4/81	SIZE B	DRAWING NUMBER 8032085
		CHKD <i>[Signature]</i>	3/2/81	APPR.		SHEET 	OF 4

QUANTITY REQD PER PART / DASH NO.										ITEM	%	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES		
										1	D	8032083-01	PCB FAB, PET 64K MEMORY					
										2	D	8032084-01	LOGIC DIAGRAM- PET 64K MEMORY					
										3								
										24	B	901521-01	IC, 74LS00	UD4,UG4				
										55	B	901521-02	, 74LS04	UE3,UE5,UE7,UF12,UG2				
										16	B	901522-30	, 7407	UG12				
										17	B	901521-03	, 74LS08	UG1				
										28	B	901521-04	, 74LS20	UF4,UG5				
										29	B	901521-05	, 74LS21	UF3,UG3				
										210	B	901521-31	, 74LS32	UG10,UF1				
										311	B	901521-44	, 74LS37	UA4,UC4,UE8				
										312	B	901521-06	, 74LS74	UE12,UG7,UG8				
										613	B	901525-02	, 74LS133	UF2		SUBSTITUTE FOR ITEM 24		
										114	B	901521-18	, 74LS139	UF5				
										115	B	901525-14	, 74LS140	UF10				
										516	B	901521-13	, 74LS244	UB1,UC1,UC2,UD1,UD2				
										217	B	901563-01	, 65245	UE1,UE2				
										118	B	901521-42	, 74LS273	UE4				
										119	B	901521-47	, 74LS367	UB2				
										120	B	901521-45	, 74LS393	UF7				
										3221	B	901470-01	, 4116-1	UA5-UA12,UB5-UB12,UC5-UC12,UD5-UD12				
										122	B	901435-02	, 6502A	UC3				
										123	B	901561-01	, 3242	UB3				
										124	B	901521-15	IC, 74LS133	UF2		USE ITEM 13 FOR SUBSTITUTE		
										25								
										326	B	900109-03	CAP, ELECT, LOW LEAK, 10 $\mu$ F/25V	C1,C3,C4				
										327	B	900402-13	, TANTALUM 1 $\mu$ F/35V	C2,C5,C6				
										28								
										4529	B	900020-01	, CERAMIC MONO, 1 $\mu$ F/50V	C13-C22,C24-C33,C36-40,C42-56,C56,66,C68-70				
										1930	B	900461-28	CAP, CERAMIC AXIAL, 1 $\mu$ F/50V	C7-C12,C23,C34,C35,C41,C57-C64,C67				
										31								
										1132	B	901550-01	RESISTOR, CARBON 1/4W5% 1K	R1,2,13-17,19,20,R21,R22				
										133	B	901550-107	RESISTOR, CARBON 1/4W5% 10 $\Omega$	R18				
										1034	B	901550-64	RESISTOR, CARBON 1/4W5% 10 $\Omega$	R3-12				
										35								
										336	B	900750-05	DIODE IN4005	CR1-CR3				
										37								
commadore										TITLE: PCB ASSY- PET 64K MEMORY		DRWN BY: M. AMES	DATE: 2-18-81	ENGR: [Signature]	DATE: 3/4/81	SIZE: B	REV: 8032085	SHT: 3/4
												CHKD: [Signature]	DATE: 3/5/81	APPR:				

QUANTITY REQD PER PART / DASH NO.										ITEM	Q	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
										38	B	901528-03	VOLTAGE REGULATOR T0-3	VR1		7805 CK
										39	B	901527-01	VOLTAGE REGULATOR T0-220	VR2		7812 CT
										40						
										41	B	901562-01	VOLTAGE REGULATOR T092	VR3		
										42	B	903326-07	HEADER ASSY, 7 PIN	J1		REMOVE PIN 3 AT ASSEMBLY
										43	B	903331-07	HEADER ASSY, 7 PIN	J2		REMOVE PIN 3 AT ASSEMBLY
										44	B	903373-01	HEADER ASSY, 40 PIN	J3		
										45						
										46	B	902906-01	HEATSINK			
										47	B	904907-01	HEATSINK, THERMAL COMPOUND			
										48	B	907169-01	STANDOFF, STRADDLING			LENGTH=1.062 INCHES
										49	B	907169-02	STANDOFF, STRADDLING			LENGTH=1.312 INCHES
										50						
										51	B	906620-02	SCREW, PHILLIP HEAD #8-32			UNC 2B .38 DEEP
										52						
										53	B	900600-01	DELAY LINE, 250ns	UE10		TZB84-10
										54						
										55						
										56	B	906610-04	SCREW, PHILLIP HEAD #6-32 x .31 LG			
										57	B	905970-04	NUT, KEP #6			
										58	B	906621-03	SET SCREW, HEX SOCKET, 68Nt			
										59						
										60	B	904150-06	SOCKET, IC LOW PROFILE 40PIN XUC3			
										61						
										62						
										63						
										64						
										65						
										67						
										68						
										67						
										68						
										69						
										70						
										71						
										72						
										73						

commodore		TITLE: PCB ASSY - PET 64K MEMORY		DRWN BY: M. AMES	DATE: 2-18-81	ENGR:	DATE:	SIZE: B	8032085	REV: E	SHT: 3/4
				CHKD:	2/2/81	APPR:					

REVISIONS			
LTR	ZONE	DESCRIPTION	DATE APPROVED
		SEE SH1	3/3/71 C K L



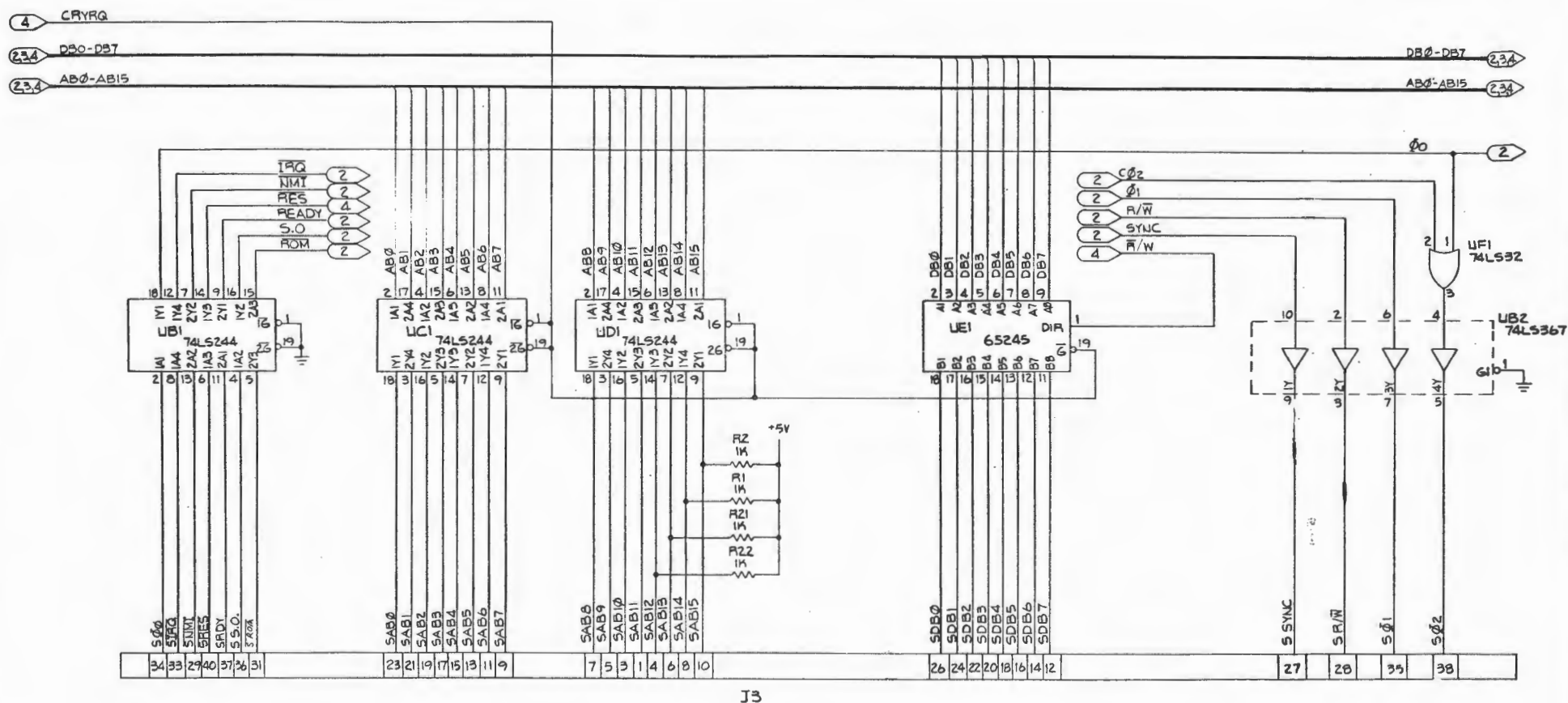
1



-01 SHOWN

DRAWN BY M. A. VES CHECKED BY J. E. VES DATE 3/3/71		commodore PCB ASSY- PET 64K MEMORY	
USED ON PET 64K	NEXT ASST 8032099	SIZE D	REV C
SCALE 2/1		SHEET 4 OF 4	

REVISIONS		DATE	APPROVED
LTR	DESCRIPTION		
A	PRODUCTION RELEASE	2/11/11	cll
B	REV PER ECO 2064	7/1/11	cll
C	REV PER ECO 2095	7/1/11	cll
D	REV PER ECO 2137	1/15/12	cll

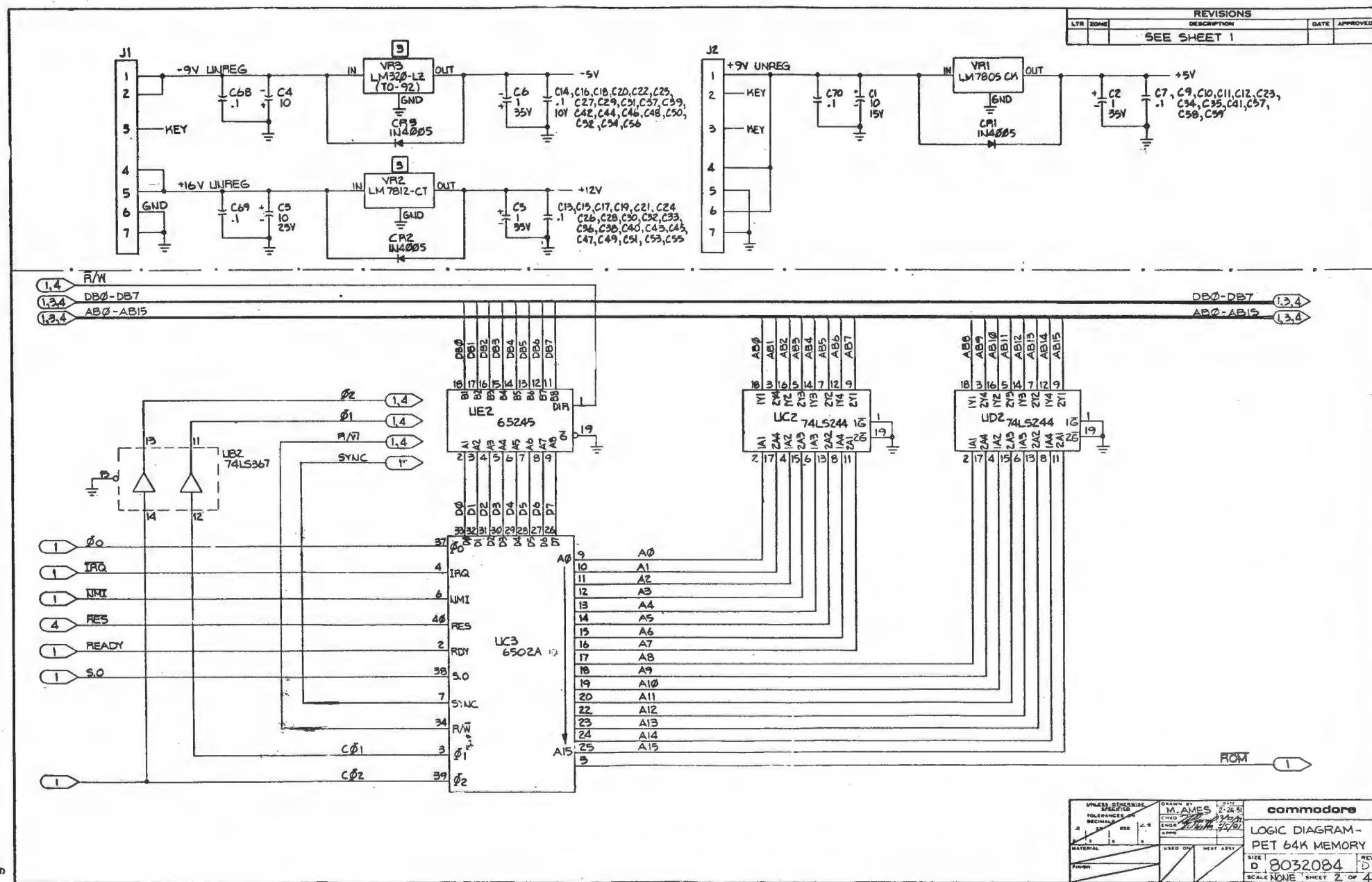


- 3 DO NOT MOUNT FLUSH TO THE BOARD. MOUNT STANDING UP.  
 2. CAPACITANCE VALUES ARE IN MICROFARADS. 50V.  
 1. RESISTANCE VALUES ARE IN OHMS, 1/4W ±5%.  
 NOTES-UNLESS OTHERWISE SPECIFIED:

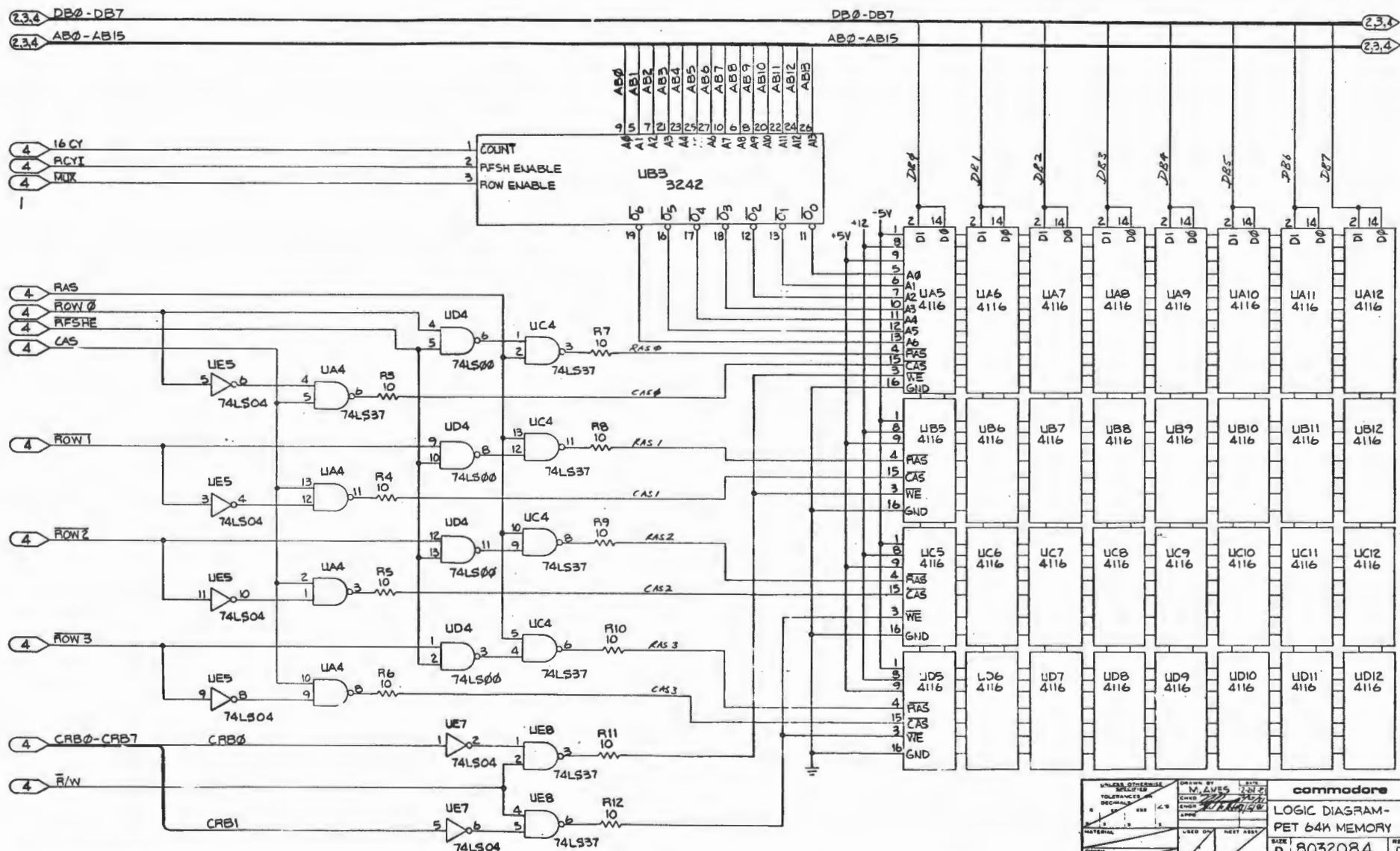
-01 SHOWN		DRAWN BY M. AMES		DATE 2-11-11	
UNLESS OTHERWISE SPECIFIED TOLERANCES IN DECIMALS A 1 2 3 4 5 6 7 8 9 10		CHECKED M. AMES		DATE 2-11-11	
MATERIAL		USED ON PET 64K		NEXT ASSY 8032085	
FORM		SIZE D		REV 0	
		PART 8032084		SCALE NONE	
		SHEET 1		OF 2	

commodore  
 LOGIC DIAGRAM-  
 PET 64K MEMORY



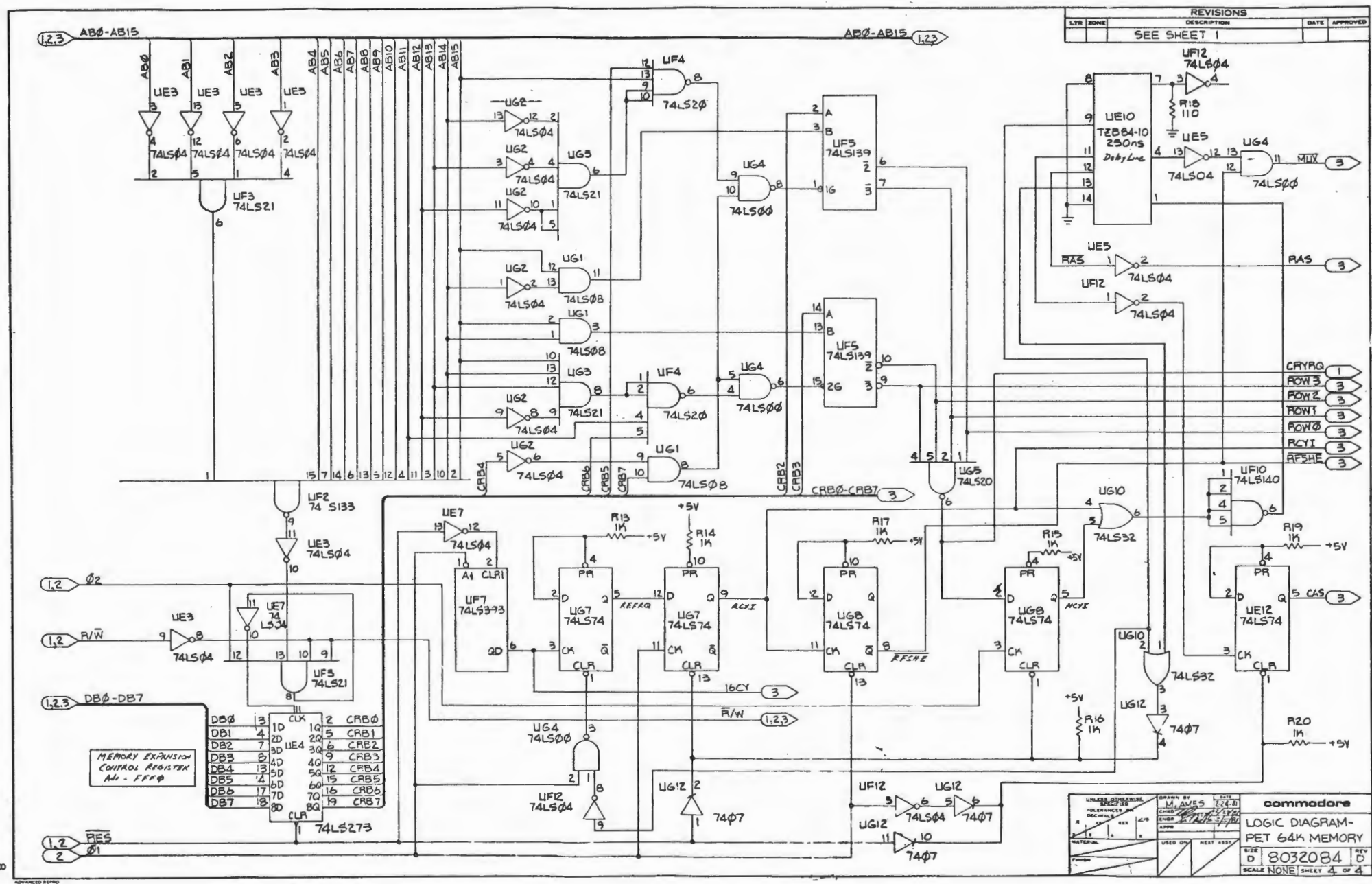


REVISIONS			
LYR	ZONE	DESCRIPTION	DATE APPROVED
SEE SHEET 1			



UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE DECIMALS		DRAWN BY M. L. W. 1/22/71	DATE 1/22/71
MATERIAL		USED ON	NEXT ASST.
FORMER			
COMMODORE		LOGIC DIAGRAM- PET 64K MEMORY	
SIZE D 8032084		REV D	SCALE NONE SHEET 3 OF 4





PART NO.	DESCRIPTION
8032110-01	PCB ASSY-PET 64K MEMORY

REVISIONS				
LTR	ZONE	DESCRIPTION	DATE	APPROVED
A		PRODUCTION RELEASE	6/17/81	<i>[Signature]</i>
B		REV PER ECO 2125	7/2/81	<i>[Signature]</i>
C		REV PER ECO 2185	8/2/81	<i>[Signature]</i>
D		REV PER ECO 2208	8/23/81	<i>[Signature]</i>
D		REV PER ECO 2242	9/21/81	<i>[Signature]</i>
E		REV PER ECO 2305	9/20/81	<i>[Signature]</i>
F		REV PER ECO 2344	10/24/81	<i>[Signature]</i>
G		REV PER ECO 2770	7/1/82	<i>[Signature]</i>
H		REVISED PER ECO 3031	3/3/87	<i>[Signature]</i>

- 4 REFER TO PART SUBSTITUTION INDEX 321233, ITEM NO.1 FOR SUBSTITUTE.  
 3 REFER TO REWORK INSTRUCTIONS  
 2 IDENTIFY WITH APPLICABLE DASH NO. AND REVISION LEVEL.  
 1. SHEET 4 OF 4 SIZE D  
 ASSY DWG  
 NOTES: UNLESS OTHERWISE SPECIFIED

commodore	TITLE: PCB ASSY-PET 64K MEMORY	DRAWN BY <i>[Signature]</i>	DATE 5-22-81	ENGR <i>[Signature]</i>	SIZE B	DRAWING NUMBER 8032110
		CHKD <i>[Signature]</i>	6-1-81	APPR <i>[Signature]</i>	6/2/81	SHEET OF 4

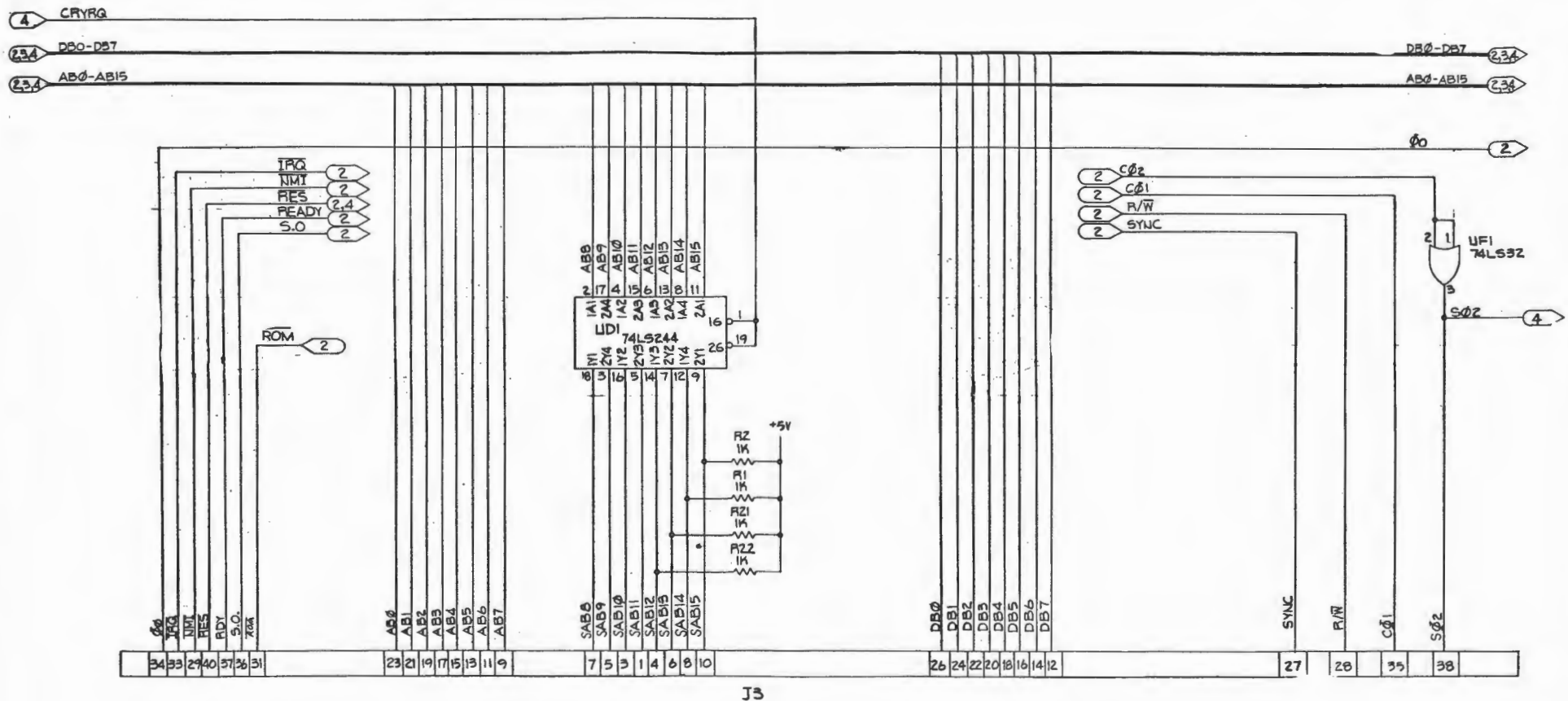
QUANTITY REQD PER PART / DASH NO.										ITEM	Q	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES												
										-01																		
										1	1	D 8032109-01	PCB FAB, PET 64K MEMORY															
										2	2	D 8032111-01	LOGIC DIAGRAM-PET 64K MEMORY															
										3																		
										24	4	B 901521-01	IC, 74LS00	UD4,UG4														
										55	5	B 901521-02	, 74LS04	UE3,UE5,UE7,UF12,UG2														
										16	6	B 901522-30	, 7407	UG12														
										17	7	B 901521-03	, 74LS08	UG1														
										28	8	B 901521-04	, 74LS20	UF4,UG5														
										29	9	B 901521-05	, 74LS21	UF3,UG3														
										210	10	B 901521-31	, 74LS32	UG10,UF1														
										311	11	B 901521-44	, 74LS37	UA4,UC4,UE8														
										312	12	B 901521-06	, 74LS74	UE12,UG7,UG8														
										13																		
										14	14	B 901521-18	, 74LS139	UF5														
										15	15	B 901525-14	, 74S140	UF10														
										16	16	B 901521-13	, 74LS244	UD1														
										17																		
										18	18	B 901521-42	, 74LS273	UE4														
										19																		
										120	20	B 901521-45	, 74LS393	UF7														
										321	21	B 901470-06	, 4116-4 (CERAMIC)	UA5-UA12,UB5-UB12,UC5-UC12,UD5-UD12														
										122	22	B 901435-02	, 6502 A	UC3														
										123	23	B 901561-01	, 3242	UB3														
										124	24	B 901521-15	IC, 74LS133	UF2	SEE NOTE [4] FOR SUBSTITUTE													
										125		900101-37	CAP ELECT, 47 $\mu$ F/16V	C5														
										326	26	B 900402-15	, ELECT, LOW LEAK, 10 $\mu$ F/25V	C1,C3,C4														
										227	27	B 900402-13	, TANTALUM 1 $\mu$ F/35V	C2,C6														
										828	28	900100-01	, ELECT, 10 $\mu$ F/16V	C14-C17,CA9,C51														
										4329	29	B 900020-01	, CERAMIC MONO, 1 $\mu$ F/50V	C13,C18-22,C24-33,C36-40,C42-48,C50,C53-55,C65,C66,C68-74,C76,C77														
										1930	30	B 900461-28	, CERAMIC AXIAL, 1 $\mu$ F/50V	C7-C12,C23,C34,C35,C41,C57-C64,C67														
										131	31	B 900100-33	CAP ELECT, 47 $\mu$ F/16V	C75														
										1132	32	B 901550-01	RESISTOR, CARBON 1/4W5% 1K	R1,2,13-17,19,20,R21,R22														
										133	33	B 901550-107	RESISTOR, CARBON 1/4W5% 110 $\Omega$	R18														
										1034	34	B 901550-64	RESISTOR, CARBON 1/4W5% 10 $\Omega$	R3-12														
										235		900100-06	CAP, ELECT, 22 $\mu$ F/10V	C52,C56														
										336	36	B 900750-05	DIODE IN4005	CR1-CR3														
										37																		
commodore										TITLE: PCB ASSY-PET 64K MEMORY										DRWN BY: MCR	DATE: 5-28-81	ENGR:	DATE:	SIZE: B	8032110	REV: H	SHT: 2/4	
																				CHKD: JHL	6-7-81	APPR:						

QUANTITY REQD PER PART / DASH NO.										ITEM	Q	PART NUMBER	DESCRIPTION	REF DES	BEND	NOTES
										38	B	901528-03	VOLTAGE REGULATOR TO-3	VR1		7805 CK
										39	B	901527-01	VOLTAGE REGULATOR TO-220	VR2		7812 CT
										40						
										41	B	901562-01	VOLTAGE REGULATOR TO92	VR3		
										42	B	903326-07	HEADER ASSY, 7 PIN	J1		REMOVE PIN 3 AT ASSEMBLY
										43	B	903331-07	HEADER ASSY, 7 PIN	J2		REMOVE PIN 3 AT ASSEMBLY
										44	B	903373-01	HEADER ASSY, 40 PIN	J3		
										45						
										46	B	902906-03	HEATSINK			
										47	B	904907-01	HEATSINK, THERMAL COMPOUND			
										48	B	906403-19	RIVET, DOME HEAD-OPEN END			
										49						
										50						
										51						
										52						
										53	B	900600-01	DELAY LINE, 250ns	UE10		TZB84-10
										54						
										55						
										56	B					
										57	B					
										58						
										59						
										60	B	904150-06	SOCKET, IC LOW PROFILE 40PIN XUC3			
										61						
										62						
										63						
										64						
										65						
										67						
										68						
										67						
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										69						
										70						
										71						
										72						
										73						

commodore		TITLE*	PCB ASSY - PET 64K MEMORY		DRAWN BY: <i>Man</i> CHKD: <i>Man</i>	DATE: 5-28-81 6-1-81	ENGR: APPR:	DATE:	SIZE: B	8032110	REV: H	SHT: 3/4
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REVISIONS			
LTR	ZONE	DESCRIPTION	DATE APPROVED
A		PRODUCTION RELEASE	6/1/84 [Signature]
B		REV PER ECO 2209	6/1/84 [Signature]
C		REV PER ECO 2241	6/1/84 [Signature]
D		REV PER ECO 2575	6/1/84 [Signature]
E		REV PER ECO 2769	6/1/84 [Signature]



3. DO NOT MOUNT FLUSH TO THE BOARD. MOUNT STANDING UP.  
2. CAPACITANCE VALUES ARE IN MICROFARADS, 50V.  
1. RESISTANCE VALUES ARE IN OHMS, 1/4W  $\pm 5\%$ .  
NOTES-UNLESS OTHERWISE SPECIFIED:

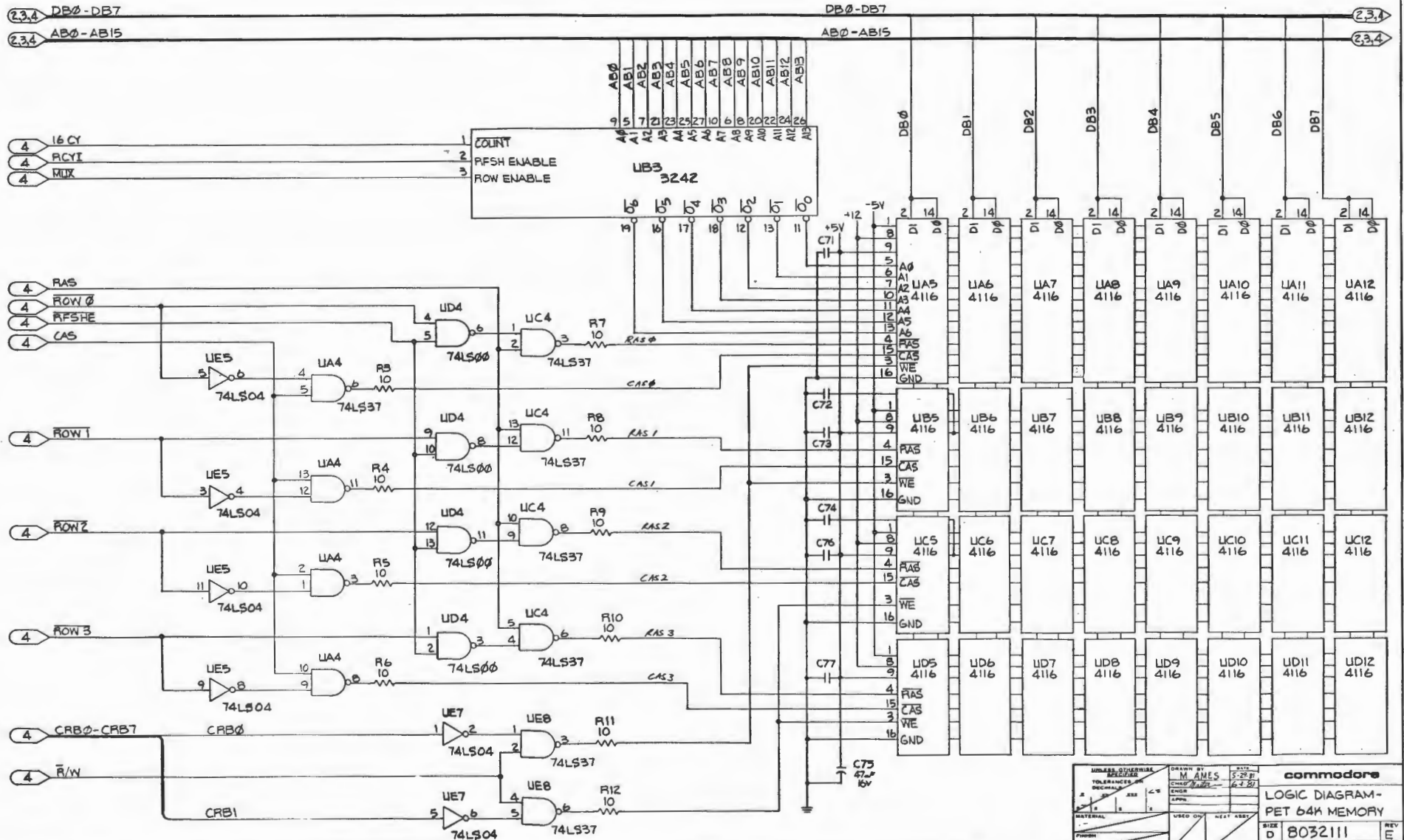
-01 SHOWN

[illegible]





REVISIONS			
LTN	ZONE	DESCRIPTION	DATE APPROVED
SEE SHEET 1			

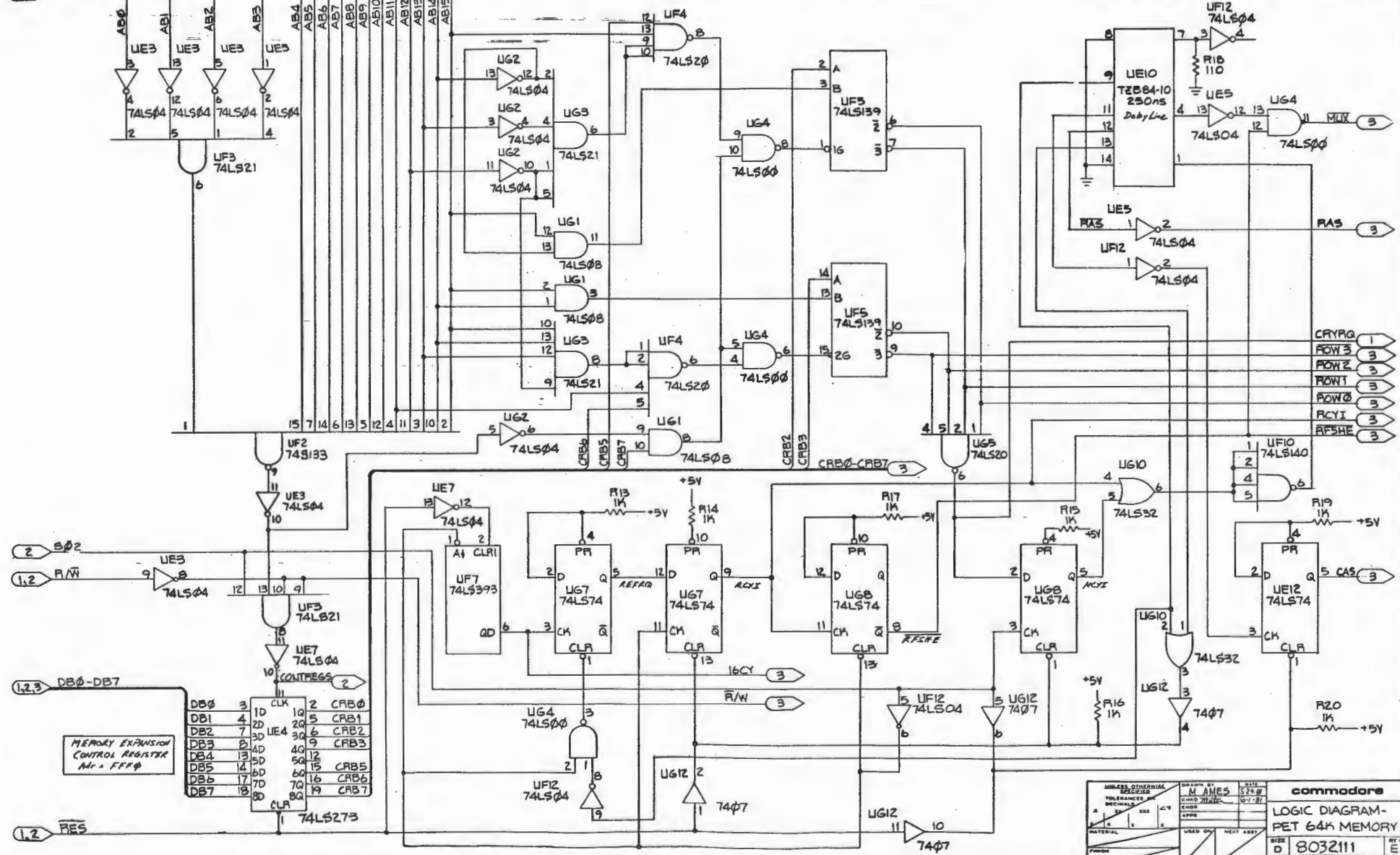


UNLESS OTHERWISE SPECIFIED		DRAWN BY: M. AMES		DATE: 5-28-81	
TOLERANCES: DECIMALS		CHECKED BY: [Signature]		DATE: 6-3-81	
FRACTIONS		USED ONLY		HEAT SINK	
MATERIAL		SCALE: NONE		SHEET 3 OF 4	
LOGIC DIAGRAM - PET 64K MEMORY SIZE: D 8032111 SCALE: NONE				REV: E	

1.2.3 AB0-AB15

AB0-AB15 1.2.3

REVISIONS			
LTR	DATE	DESCRIPTION	APPROVED
SEE SHEET 1			



MINUS OTHERWISE STANDARD TOLERANCES AND DECIMALS		DRAWN BY M. AMES		DATE 5-24-69	
A		CNC'D ENG'R APPRO		9-1-71	
B		CNC'D			
C		CNC'D			
D		CNC'D			
E		CNC'D			
F		CNC'D			
G		CNC'D			
H		CNC'D			
I		CNC'D			
J		CNC'D			
K		CNC'D			
L		CNC'D			
M		CNC'D			
N		CNC'D			
O		CNC'D			
P		CNC'D			
Q		CNC'D			
R		CNC'D			
S		CNC'D			
T		CNC'D			
U		CNC'D			
V		CNC'D			
W		CNC'D			
X		CNC'D			
Y		CNC'D			
Z		CNC'D			
AA		CNC'D			
AB		CNC'D			
AC		CNC'D			
AD		CNC'D			
AE		CNC'D			
AF		CNC'D			
AG		CNC'D			
AH		CNC'D			
AI		CNC'D			
AJ		CNC'D			
AK		CNC'D			
AL		CNC'D			
AM		CNC'D			
AN		CNC'D			
AO		CNC'D			
AP		CNC'D			
AQ		CNC'D			
AR		CNC'D			
AS		CNC'D			
AT		CNC'D			
AU		CNC'D			
AV		CNC'D			
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AX		CNC'D			
AY		CNC'D			
AZ		CNC'D			
BA		CNC'D			
BB		CNC'D			
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BI		CNC'D			
BJ		CNC'D			
BK		CNC'D			
BL		CNC'D			
BM		CNC'D			
BN		CNC'D			
BO		CNC'D			
BP		CNC'D			
BQ		CNC'D			
BR		CNC'D			
BS		CNC'D			
BT		CNC'D			
BU		CNC'D			
BV		CNC'D			
BW		CNC'D			
BX		CNC'D			
BY		CNC'D			
BZ		CNC'D			
CA		CNC'D			
CB		CNC'D			
CC		CNC'D			
CD		CNC'D			
CE		CNC'D			
CF		CNC'D			
CG		CNC'D			
CH		CNC'D			
CI		CNC'D			
CJ		CNC'D			
CK		CNC'D			
CL		CNC'D			
CM		CNC'D			
CN		CNC'D			
CO		CNC'D			
CP		CNC'D			
CQ		CNC'D			
CR		CNC'D			
CS		CNC'D			
CT		CNC'D			
CU		CNC'D			
CV		CNC'D			
CW		CNC'D			
CX		CNC'D			
CY		CNC'D			
CZ		CNC'D			
DA		CNC'D			
DB		CNC'D			
DC		CNC'D			
DD		CNC'D			
DE		CNC'D			
DF		CNC'D			
DG		CNC'D			
DH		CNC'D			
DI		CNC'D			
DJ		CNC'D			
DK		CNC'D			
DL		CNC'D			
DM		CNC'D			
DN		CNC'D			
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DP		CNC'D			
DQ		CNC'D			
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DS		CNC'D			
DT		CNC'D			
DU		CNC'D			
DV		CNC'D			
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DX		CNC'D			
DY		CNC'D			
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EC		CNC'D			
ED		CNC'D			
EE		CNC'D			
EF		CNC'D			
EG		CNC'D			
EH		CNC'D			
EI		CNC'D			
EJ		CNC'D			
EK		CNC'D			
EL		CNC'D			
EM		CNC'D			
EN		CNC'D			
EO		CNC'D			
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EQ		CNC'D			
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EU		CNC'D			
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EW		CNC'D			
EX		CNC'D			
EY		CNC'D			
EZ		CNC'D			
FA		CNC'D			
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FC		CNC'D			
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FE		CNC'D			
FF		CNC'D			
FG		CNC'D			
FH		CNC'D			
FI		CNC'D			
FJ		CNC'D			
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